

SPRING 2006



DOE COMMITTEE EXPLORES PATH FORWARD FOR PLUTONIUM

U.S. Department of Energy Principal Deputy Assistant Secretary for Environmental Management Charles Anderson met with the SRS CAB on March 28, 2006, to discuss a committee formed to look at options for consolidating and disposing of the nation's surplus plutonium (Pu). Mr. Anderson chairs the Nuclear Materials Disposition and Consolidation Coordination Committee (NMDCCC), a high-level management strategy team formed to determine a DOE complex-wide solution for excess plutonium.

DOE stores about 50 metric tons of plutonium that is no longer needed by the United States for nuclear weapons. Some of this plutonium is contaminated metal, oxides, solutions, and residues remaining from the nuclear weapons production process.

The current disposition plan relies, in part, on successful licensing, construction, and operation of the MOX Fuel Fabrication Facility for disposal of most of the excess plutonium. Approximately 13 metric tons will remain with no approved disposition path, although a minor portion of this amount may be suitable for MOX fuel.

A large quantity of this plutonium material is already stored at the Savannah River Site (SRS), but DOE is looking to increase its

storage capacity in the event it decides to consolidate its plutonium at SRS until it can be permanently disposed. Presently, however this is not an option.

DOE has not completed a plan to process the plutonium into a form for permanent disposition, as required by the National Defense Authorization Act and without such a plan, DOE cannot ship additional plutonium to SRS. Second, SRS cannot receive all of the plutonium from DOE's Hanford Site because it is not in a form SRS planned to store.

The CAB has asked that DOE not ship plutonium to SRS until there is a realistic exit strategy for the stored plutonium. The CAB's basic concern is that SRS not receive additional plutonium until a viable and demonstrated disposition path is available and DOE knows how it is going to process plutonium from vulnerable form(s) to a less vulnerable form.

According to Mr. Anderson, the committee is taking a scientific method approach to the issues, by first defining the problem; listing all known pertinent facts and source documents; listing all alternatives; conducting analyses and then providing a recommended path forward.

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The mission of the SRS CAB is to provide informed and timely recommendations to DOE, EPA and SCDHEC concerning decisions that affect SRS in areas of environmental restoration, waste management and related activities.

RECENT RECOMMENDATIONS HIGHLIGHTED

Recommendation 223-Plutonium Consolidation - GAO Report

While the SRS CAB agrees that the report has several inaccuracies and comes across as critical, it does reaffirm what the CAB has been pointing out for several years - that DOE has no comprehensive plan to manage, consolidate or dispose of plutonium. Therefore, the SRS CAB recommended that DOE develop a comprehensive strategy to consolidate, store, and eventually dispose of its plutonium and include a public participation component. The Board also recommended as part of the Nuclear Materials Disposition and Consolidation Coordination Committee (NMDCCC) Strategic Plan, that DOE evaluate building a dedicated robust facility capable of storing and monitoring excess plutonium as well as processing the material for eventual shipment to Yucca Mountain. The Board requested specific information regarding the NMDCCC on topics of the committee's charter, timeline, milestones and membership. Charles Anderson, NMDCCC Chair, presented to the SRS CAB during its March CAB meeting in Columbia, S.C. (*see related story*)

Recommendation 224- Draft 3116 Determination Document for Closure of Tank 19 and Tank 18

The SRS CAB requested that DOE-SR provide both tank closure modules to the South Carolina Department of Health and Environmental Control (SCDHEC) no later than October 1, 2006, and demonstrate that residual radioactivity in tank heels meets the applicable performance objectives for tank closure. The Board also requested that DOE-SR commit to providing all necessary resources to address the Nuclear Regulatory Commission's Request for Additional Information by April 1, 2006, and that DOE-SR commit to recapturing closure schedule and strive to meet the existing Federal Facility Agreement deadlines for tank closure. The Board implored DOE to commit to completing the tank closures no later than the end of fiscal year 2007.

Recommendation 225-Public Notification Requirements for Non-Time-Critical Removal Actions

The CAB recommended that improved public notification of Action Memorandums is needed and asked DOE-SR to file a notice in the site's *Environmental Bulletin* when an Action Memorandum and response to comments for an Engineering Evaluation/Cost Analysis (EE/CA) for a Non-Time-Critical Removal Action has been placed in the Administrative Record File/Information Repository File (ARF/IRF) within two weeks of publication in the ARF/IRF and that it note the location and/or number in the ARF/IRF of the Action Memorandum and response to comments for the EE/CA being placed therein. DOE accepted the recommendation which was fully implemented by January 31, 2006.

Recommendation 226-Proposed National Policy on Buried Alpha Waste

The SRS CAB recognizes and affirms the existing policy on buried alpha waste and likes the site-specific approach that evaluates the risks, costs, safety, and local concerns associated with any retrieval and/or characterization actions. The CAB does not believe the existing policy should be changed.

Recommendation 227-Salt Waste Processing Facility (SWPF) Seismic Qualifications Decisions

In response to a Defense Nuclear Facilities Safety Board (DNFSB) letter to DOE indicating specific concerns about the DOE standards used to confine radioactive materials for nuclear facilities, the SRS CAB expressed concern that DOE and its contractors are overestimating the significance of the performance requirements for a confinement ventilation system and are relying on questionable calculations of offsite doses to evaluate performance. The CAB previously recommended that DOE and the DNFSB resolve the re-design issue and has been briefed on plans for re-design; but, they have not been briefed on the overall risk-benefit analysis. The CAB believes the project management standards include a reasonable assurance for the safety of workers, the public, and the environment. However, the CAB is still very concerned with the risks associated with extended storage of high level waste in aged storage tanks without secondary containments, excessive costs, and the impact of delay on the regulatory process. The Board recommended that DOE-SR resolve any open issues with SCDHEC related to the deliquification, dissolution, and adjustment (DDA) process by March 1, 2006, in order to start the process in order to meet the current schedule. The Board also asked DOE to review with the SRS CAB the methodology used in reaching the SWPF confinement decision and explain how or if the methodology would be changed for future decisions on confinement/containment design. They also recommended that DOE manage the SWPF re-design process in order to shorten the schedule as much as possible, including the use of incentives and other tools to reduce the barriers to a speedy, safe and effective design of SWPF.

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PATH FORWARD FOR PLUTONIUM

(continued from page 1)

Near term issues are consolidation of excess Pu 239 by 2008; disposition of Uranium 233 from Oak Ridge National Laboratory; removal of surplus material from Y-12; removal of surplus material from the Los Alamos National Laboratory; removal of all Category 1 and 2 materials from Lawrence Livermore National Laboratory; removal of materials from Sandia National Laboratory by 2008; removal of surplus weapons pits from Zone 4 at Pantex; and consolidation of Pu 238.

According to Mr. Anderson, the near term issues indicate DOE's priorities. "This committee will be successful when there is an implementation plan approved for every one of these issues," said Anderson. The driver is a strategic plan for all nuclear materials management. "There will be an overall strategic plan that will basically have addendums that are the implementation plans for each of these dispositions and materials types."

There are other special nuclear materials that do not fit neatly into categories and separate efforts are being done to look at these areas requiring an integration of efforts. Mr. Anderson described four categories of nuclear materials: Disposition Known and Documented; Disposition Known but Not Documented; Multiple Paths for Disposition; and an Unknown category.

Mr. Anderson was appointed Chair of the NMDCCC on November 15, 2005. The DOE Committee is made up of a core group of those organizations that own materials and have a vested interest as well as advisors from General Counsel, Public Affairs, Congressional Affairs



Charlie Anderson, DOE, discusses plutonium disposition and consolidation issues with SRS CAB.

and National Environmental Policy Act representation. The committee looks at issues across the board for all DOE. The Executive Steering Committee consists of Mr. Anderson, Under Secretary David Garman, and Under Secretary Linton Brooks, persons with authority to execute any recommendations made by the committee.

According to Mr. Anderson, ultimate disposition really guides nuclear materials decisions. "DOE does not want to have to move these materials twice." Security costs are a huge factor in decision making. Protection of these materials is paramount regardless of the quantities. "Taking care of the Pu 239 at Hanford and the Uranium 233 at Oak Ridge will instantly save DOE significant amounts of money in security costs," said Anderson.

As one of the top three issues for the SRS CAB, the Board will continue to follow the activities of the NMDCCC and request updates on plutonium disposition and consolidation as more information is made available.



***SRS CAB Officers and
2006 Committee Chairs***
(from left to right)

*Front row: Meryl Alalof,
Administrative Committee
Donna Antonucci, Board Vice
Chair; Karen Patterson, Board
Chair; Mary Drye, Facilities
Disposition & Site Remediation*

*Back Row: Manuel Bettencourt,
Nuclear Materials; Jimmy
Mackey, Strategic & Legacy
Management; Bob
Meisenheimer, Waste Manage-
ment*

SRS PLANT DELAY TROUBLES BOARD

In a recent letter to Assistant Secretary Rispoli, the SRS CAB Waste Management Committee expressed disappointment with the process used by DOE to change the design of the Salt Waste Processing Facility (SWPF) at SRS. The SWPF, which will be used to treat salt waste removed from 49 underground high level waste tanks at SRS for onsite disposal, was scheduled for completion in 2009. However, in the summer of 2004, the Defense Nuclear Facilities Safety Board (DNFSB) notified DOE of concerns about the DOE standards that govern the approach used to confine radioactive materials for all nuclear facilities. Of particular interest to DNFSB was the performance category (PC) designation of PC-2 proposed for the SWPF. The DNFSB thought a PC-3 standard for seismic qualifications should be required for confinement purposes, thus providing additional worker safety and protection.

DOE ultimately responded to the DNFSB in late 2005 acknowledging that several options had been evaluated for assuring reliable confinement of SWPF high-hazards materials in the event of an earthquake or other natural phenomena.

DOE agreed to adopt a local, safety-related PC-3 confinement barrier housed within a PC-3 building as the more practical course of action.

Amid the nearly 15-month debate on confinement conceptual design, the SRS CAB requested that DOE-SR and the DNFSB work together to expeditiously resolve the re-design issue based upon technical merit, risk impact to the overall SRS waste management system, and cost benefit analysis of various options (Recommendation 212). The Board also asked DOE-SR to provide an estimate of the relative risks of postponing the treatment of high-level wastes in SWPF to meet the re-design objectives and leaving the wastes in 50-year old tanks compared with the risks of not upgrading the design of SWPF. This was not done, leading too much of the Board's dissatisfaction.

According to the Committee, this redesign, which delays the facility by two years and increases lifecycle costs by nearly a billion dollars, was overly cautious. The CAB felt that scientific and engineering proof for the change was lacking. "The decision process used failed to determine that the new design approach for the SWPF overall is more protective of human health and safety," said Robert Meisenheimer, Chair of the SRS CAB Waste Management Committee. "Of further concern to the Board was DOE's and the DNFSB's insistence on focusing on a single component of the high level waste system rather than acknowledging the impacts to the entire system."



Highly radioactive waste resulting from reprocessing spent nuclear fuel is stored in two tanks farms at SRS.

The SRS CAB has followed SRS high level waste (HLW) program issues for over ten years and made dozens of recommendations on related issues. The constant and urgent theme has been to reduce the greatest risk at SRS – the large volume of radiological waste in the HLW tanks. "Our deepest concerns now are how to minimize the impacts of the delay and accelerate the construction of the SWPF; to

ensure the availability of sufficient funds for construction; ensure the ability to meet existing regulatory commitments; and any potential increased risk to tank farm workers caused by the delay," said Meisenheimer.

The letter concluded with a suggestion that DOE evaluate its decision making process and incorporate a risk-based systems approach using quantitative analyses wherever appropriate, including consideration of how impacts to any single system component affects the functional ability of the entire system. The Committee also implored DOE to ensure early and meaningful involvement with public stakeholders and regulators as an essential component to the decision making process to avoid any future frustrations.

VISIT OUR WEBSITE AT WWW.SRS.GOV AND CLICK ON OUTREACH

FD&SR COMMITTEE GETS FIRST HAND LOOK AT SRS REMEDIATION AND D&D EFFORTS

Members of the Facility Disposition & Site Remediation (FD&SR) Committee got a first-hand look at cleanup efforts at SRS on March 16, 2006. CAB members toured sites undergoing deactivation and decommissioning at A and M Areas, 247-F Naval Fuels and T Area. Where Deactivation and Decommissioning (D&D) activities were complete, the Board viewed before and after photographs to help visualize the scope of the D&D work. As of 1/31/06, 192 buildings have been demolished totaling 1,617,000 square feet.

The Board members also toured several ongoing Soil & Groundwater projects including Dynamic Underground Stripping (DUS); the F&H Groundwater Barrier Walls; C Reactor Electrical Resistance Heating Deployment; and the D Area Ash Basin.

The DUS Facility, located adjacent to the M-Area Settling Basin site, was constructed to remove volatile organic compound (VOC) contamination from the area which is approximately three acres in size. DUS injects steam into the vadose zone and uses soil vapor extraction technology to enhance recovery of the VOCs from the subsurface. DUS, a petroleum industry technology modified for environmental remediation, is 15 times faster than soil vapor extraction and 75 times faster than pump-and-treat groundwater cleanup methods.

Board members stood about 200 feet south of the C-Reactor Building to witness preparation work for an interim remedial action to remove trichloroethylene (TCE) released to the soil utilizing electrical resistance heating and soil vapor extraction. The objective is to remove 300 pounds of TCE present in the vadose zone, thus eliminating the source of contamination to the groundwater.



Electrical resistance heating project at C Reactor

In D Area, CAB members stood atop the D Ash Basin as trucks hauling fill dirt worked to construct the cap covering waste consolidated from multiple sites into a single location. A geosynthetic cover will be placed over the 22-acre ash basin which is scheduled for completion in FY07.

Engineers explained how a 2 foot barrier wall resulting from deep soil mixing was used to replace expensive pump and treat technology in F/H Area, reducing costs and concentrations of contaminants in the nearby creek.

“It’s so helpful to be able to see these sites up close and personal,” stated SRS CAB FD&SR Committee Chair Mary Drye. “It’s very hard to grasp some of these concepts through presentations, and today’s tour was extremely effective in portraying some of the immense cleanup challenges faced by the site.”



FD&SR Committee Chair Mary Drye ask questions of Thomas Johnson, DOE at the D Area Ash Basin.



SRS CAB ISSUES 2006 WORKPLAN

The SRS CAB recently issued its latest Annual Workplan. It covers approximately one calendar year and identifies the priority issues for the CAB. The priorities are a result of a survey taken at the January 2006 CAB meeting in Hilton Head Island, S.C. Board members prioritized sixteen issues for 2006. High Level Waste Tank Closure was ranked as the top issue for the

year. It was closely followed by integrated plutonium disposition. The Salt Waste Processing Facility and the salt waste process were also top issues along with deactivation and decommissioning of site facilities. The workplan is reviewed and updated annually and can be viewed on the CAB website at www.srs.gov and click on Outreach Programs.

SRS CAB BIDS FAREWELL TO EIGHT MEMBERS



Jean Sulc is recognized for her six-year contribution to the SRS CAB. She served as Board Vice Chair from 2002-2004 and Board Chairman from 2004-2006. (To the left, Bill Lawless presents a keepsake and on the right, DOE Manager, Jeff Allison presents recognition award)



The SRS CAB bid farewell to eight board members during the January CAB meeting. Pictured (left to right): Perry Holcomb, Cassandra Henry, Bill Willoughby, Dorene Richardson, Jean Sulc, William Lawrence. Not Pictured: Danielle Mackie and Carolyn Williams.

SRS CAB WELCOMES NEW MEMBERS



David Dawson

David Dawson retired following a 25 year career in business. He is a Metallurgical Engineer from Cornell University and holds an MBA as well. Mr. Dawson served in various executive positions throughout his career including CEO of the Electric Storage Battery Company. Mr. Dawson was an Atomic Weapons Officer in the US Navy for 3 years. He has started several small businesses and remains active in one of them. Mr. Dawson resides in Savannah, Ga.



Mercredi Giles

Mercredi is an environmental lab manager and research technician at the Savannah State University. An environmental activist, she has worked with Citizens for Environmental Justice, Youth for a Cleaner Environment and the National Council of Negro Women. Ms. Giles volunteers her time at a local library where she helps with the children's story time and is developing a program for youth regarding environmental and marine sciences. Mercredi holds a B.S. with a major in biology and a minor in chemistry. She resides in Savannah, Ga.



Cynthia Gilliard

Cynthia has ten years experience in human services. She is the Children's Services Program Director for Managed Treatment Services for Children in Aiken, S.C. Ms. Gilliard has a B.A. in sociology and an M.A. in rehabilitation counseling. She assisted in the development and implementation of the South Carolina Public Foster Care Program, has vast teaching experience with adolescents and adults and is experienced in group facilitation. Ms. Gilliard is an active member of her church in Aiken, S.C. where she resides.



Judith Greene-McLeod

Judith is a research coordinator with the University of Georgia's Savannah River Ecology Laboratory (SREL) at SRS. She has worked at SREL since 1976 and been involved in many studies from design through peer-reviewed publication. She is a member of the South Carolina Wildlife Federation and the National Wildlife Federation. Judith has always lived near SRS. Her family lived in Meyers before SRS was constructed and her parents were members of the last graduating class of Ellenton High School. Judith holds B.S. in biology and resides in Jackson, S.C.



Alex Williams

Alex is the Pastor of Simmon Ridge Baptist Church in Edgefield, S.C. Mr. Williams has worked as a parenting teacher and counselor, a caseworker for social services, a correctional officer, a human resources development manager and was a former officer with the U.S. Army. Mr. Williams has a B.S. in biology and an M.S. in psychology. He resides in Aiken, S.C.



Kuppuswamy Jayaraman

Kuppuswamy is an Associate Professor at Savannah State University. He holds a doctorate degree in environmental engineering and teaches the subject to degree students. He has a Masters in Public Health Engineering and a Bachelor of Engineering in civil engineering. Mr. Jayaraman has served in varying capacities for the the American Society of Civil Engineers, the American Association of University Women, the American Society of University Professors and the Institution of Water and Environmental Management for the UK and Royal Society of Health. He resides in Savannah, Ga.



Madeleine Marshall

Madeleine recently retired from John Hopkins University Applied Physics Laboratory. She has a B.A. in math and an M.S. in computer science. Her 33 year career as an analyst software engineer, system engineer and technical manager brought her into frequent contact with various stakeholders including the Department of Defense and civilian government sponsors, commercial customers, operational military and state government officials. She recently retired to Aiken, S.C. and volunteers with a local after-school program.



Wade Waters

Wade, now retired, has been an elementary school principal, director of adult and continuing education programs and inspector employed by the State of Georgia regarding educational facilities. He has served on local, national and international organizations for the education of retarded or mentally challenged students. Wade previously served on the SRS CAB from 1999-2004 in various positions including Chair of the Board. He resides in Pooler, Ga.



Savannah River Site Citizens Advisory Board

Key criteria for Board membership includes a time commitment and the desire and ability to work towards better and informed recommendations.

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**Board Beat* is published semiannually by the Savannah River Site Citizens Advisory Board. Content is provided by Board members and support staff. Please send your comments and suggestions to:

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Upcoming 2006 Citizens Advisory Board Meetings

May 22-23	Double Tree Hotel, Savannah, Ga.
July 24-25	NA Community Center, North Augusta, S.C.
September 25-26	Double Tree Hotel, Charleston, S.C.
November 13-14	Augusta Towers Hotel, Augusta, Ga.

Note: Individual committee meetings will be held as required.

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